Barton Village BO 1449(33)
Bridge 58 on TH 4 over Barton River
Alternatives Presentation

Presented by
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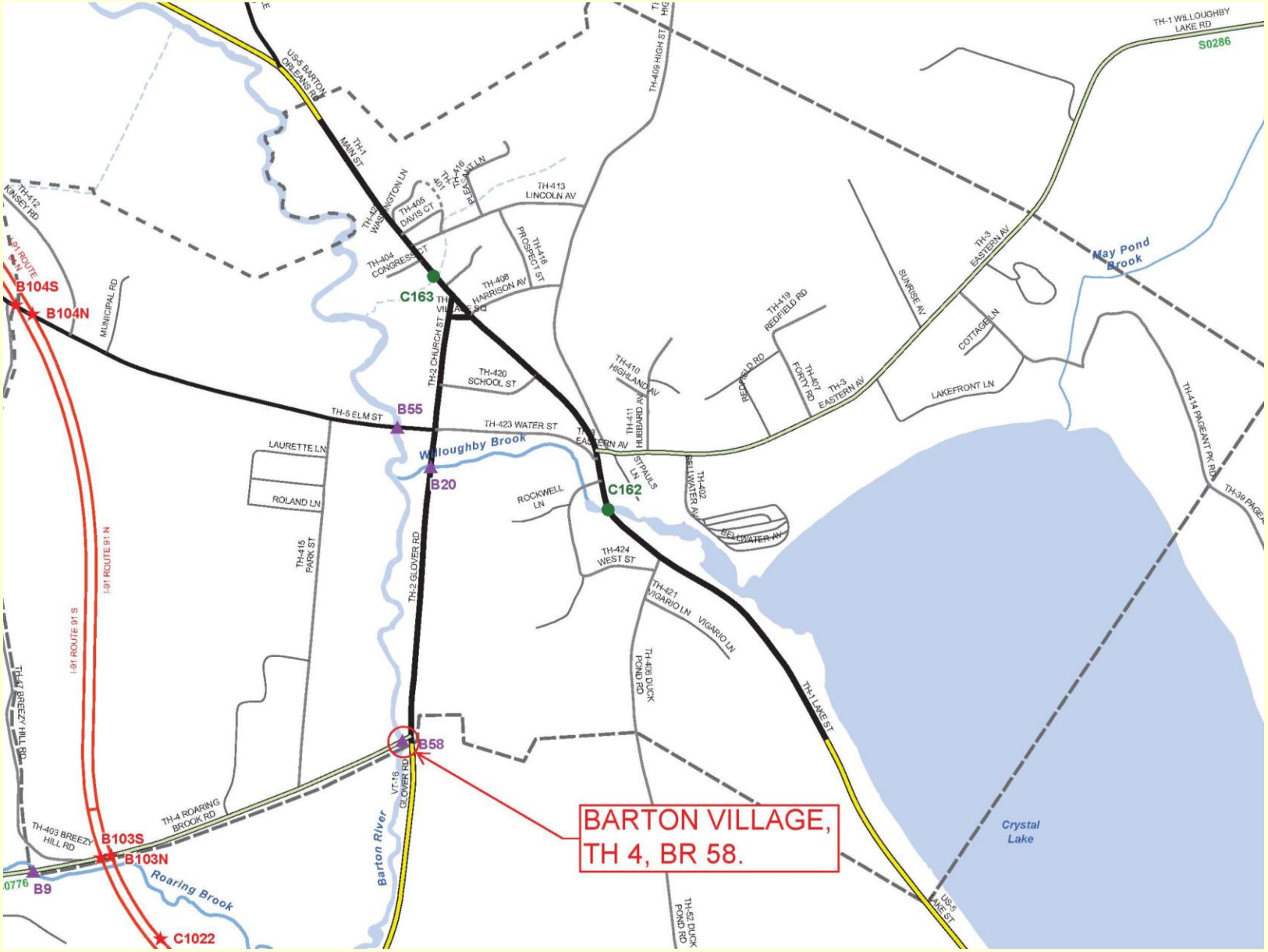
PROJECT LOCATION



Meeting Outline

- Purpose of the Meeting
- Structures Section Re-organization
- Existing bridge deficiencies
- Alternatives considered
- Summary and recommendation

Purpose of Meeting

- Present the alternatives that we have considered
- Explain the constraints to the project
- Help you understand our approach to the project
- Provide you with the chance to ask questions.
- Provide you with the chance to voice concerns
- Build consensus for the recommended alternative-

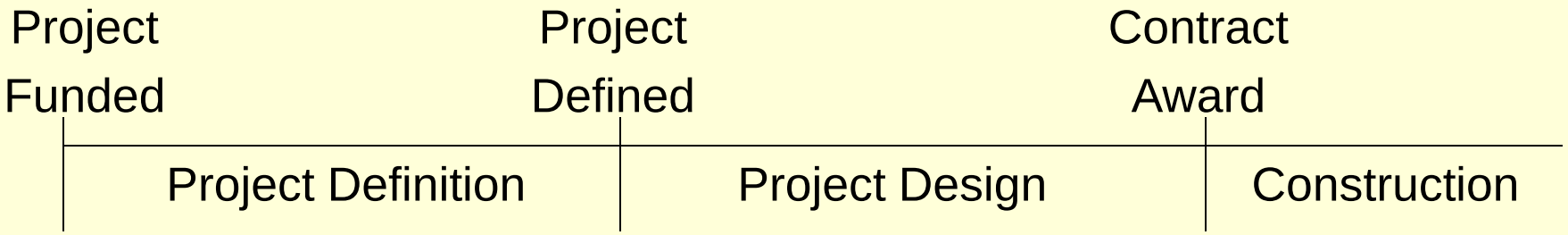
Accelerated Bridge Program

- Began in January 2012
- Bridges are deteriorating faster than we can fix them
- Accelerated Bridge Construction (ABC) is key
- Impacts to property and resources is minimized
- Standard details repeated on many projects
- Shift from individual projects to programmatic approach
- Accelerated Project Delivery
- Goal of 2 year design phase for ABP (5 years conventional)
- Goal of 25% of projects into Accelerated Bridge Program

Project Initiation & Innovation Team

- Part of re-organization in January 2012
- Currently team of 5
- All projects will begin in the PIIT
- Very efficient process
- Look for innovative solutions whenever possible
- Involved until Project Scope is defined
- Hand off to PM to continue Project Design phase

Phases of Development



Identify resources & constraints

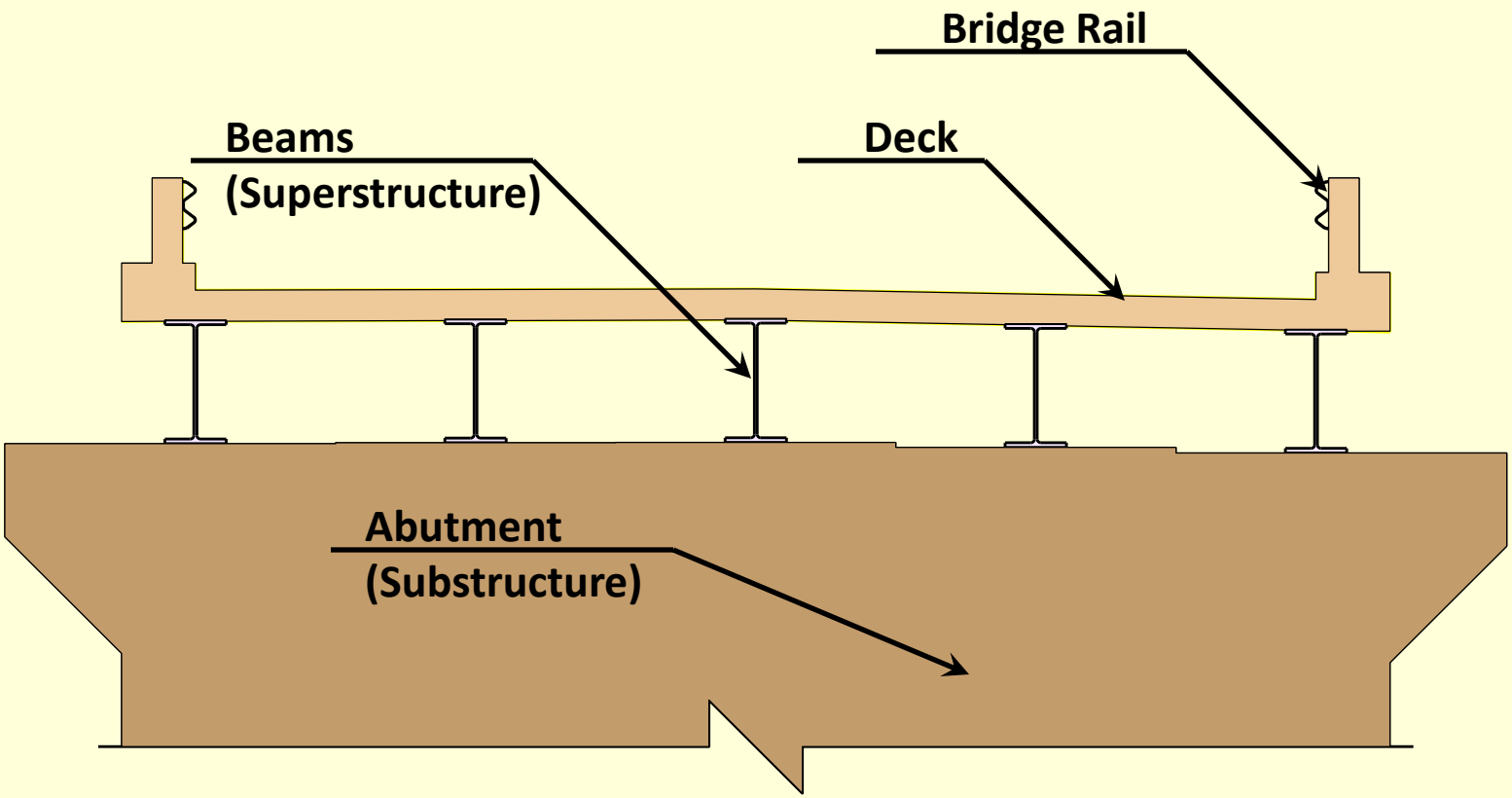
Evaluate alternatives

Public Participation

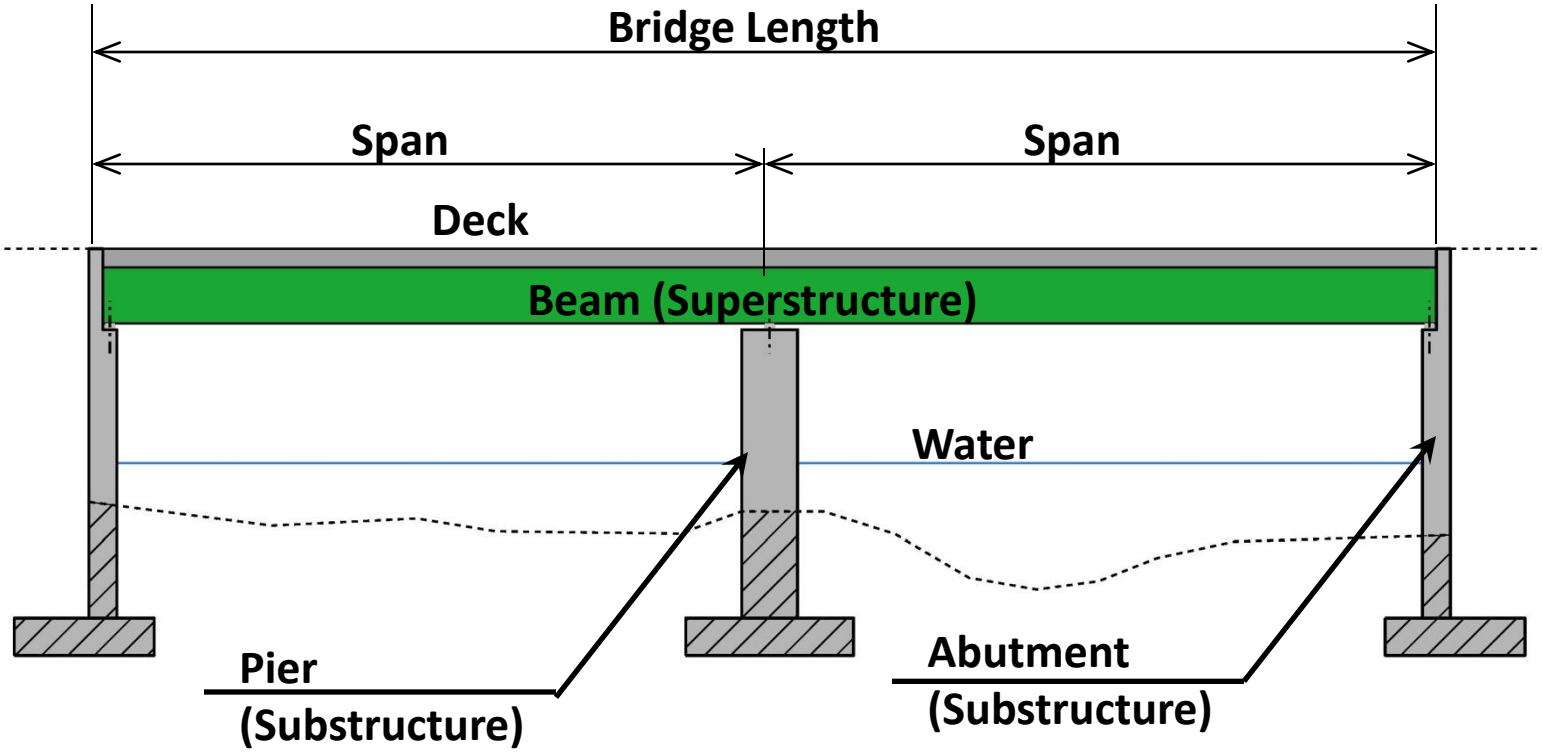
Build Consensus

- Quantify areas of impact
- Environmental permits
- Develop plans, estimate and specifications

Description of Terms Used



More Terms Used



Elevation View of Bridge

Project Background

- The structure is owned and maintained by the Village
- Roaring Brook Road is a Class 2 Local Highway
- Existing bridge is a 3-span concrete slab bridge
- Total length of 48 feet and width of 24 feet
- The structure was built in 1956 (57 years old)

Project Background (Cont)

- Traffic Data

TRAFFIC DATA	2016	2036
ADT	1,100	1,200
DHV	120	140
ADTT	30	45
%T	2.7	3.5

Design Speed = 20 mph (stop condition)

EXISTING BRIDGE DEFICIENCIES

Deficiencies

- The bridge does not have adequate hydraulic capacity
- The deck and superstructure are in poor condition
- The bridge rail does not meet standards

Inspection Report Information (Based on a scale of 9)

Deck Rating	4 Poor
Superstructure Rating	4 Poor
Substructure Rating	5 Fair

Bridge Looking East

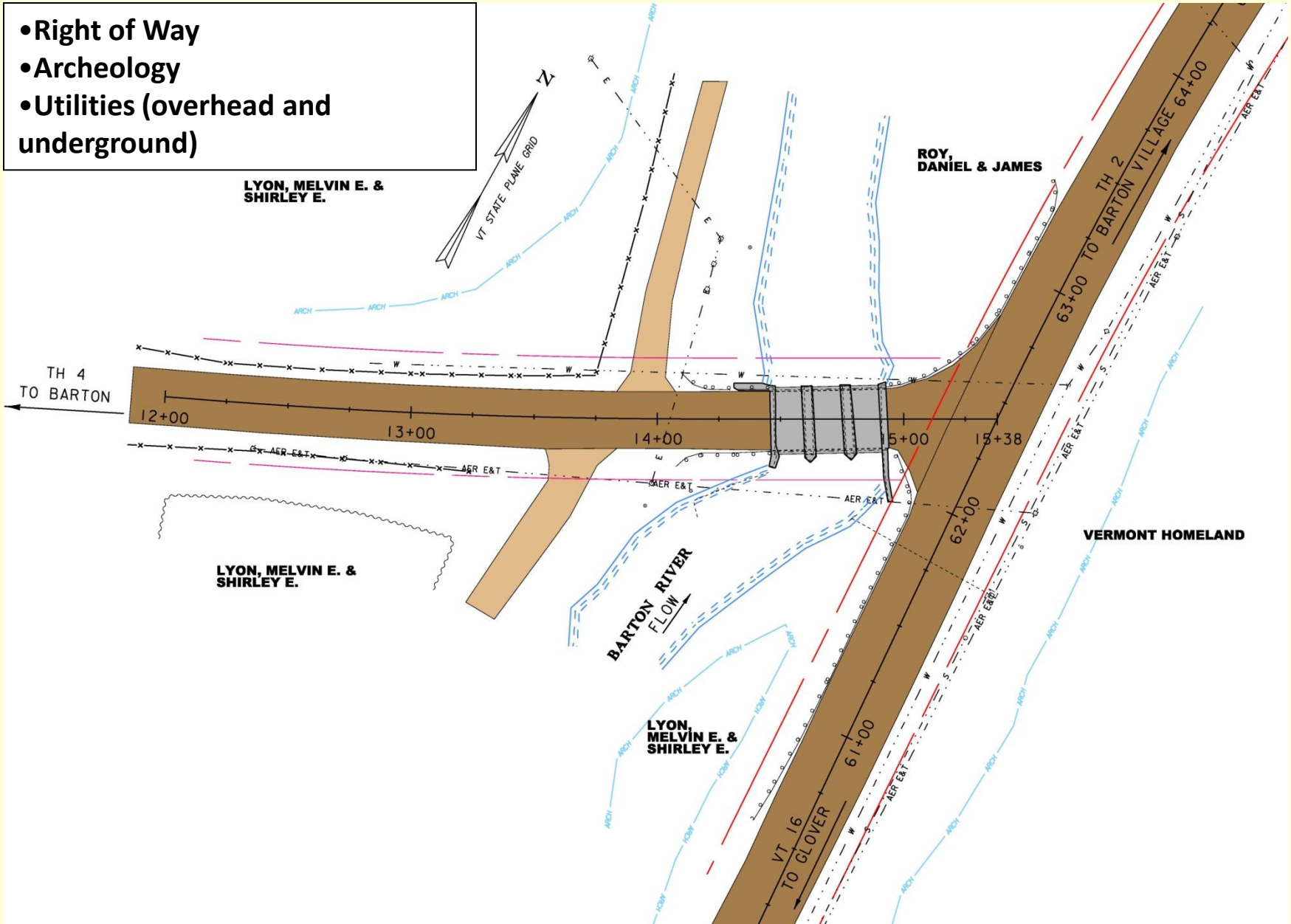
Upstream Fascia

Looking Upstream

Looking South along VT 16

Layout Showing Constraints

- Right of Way
- Archeology
- Utilities (overhead and underground)



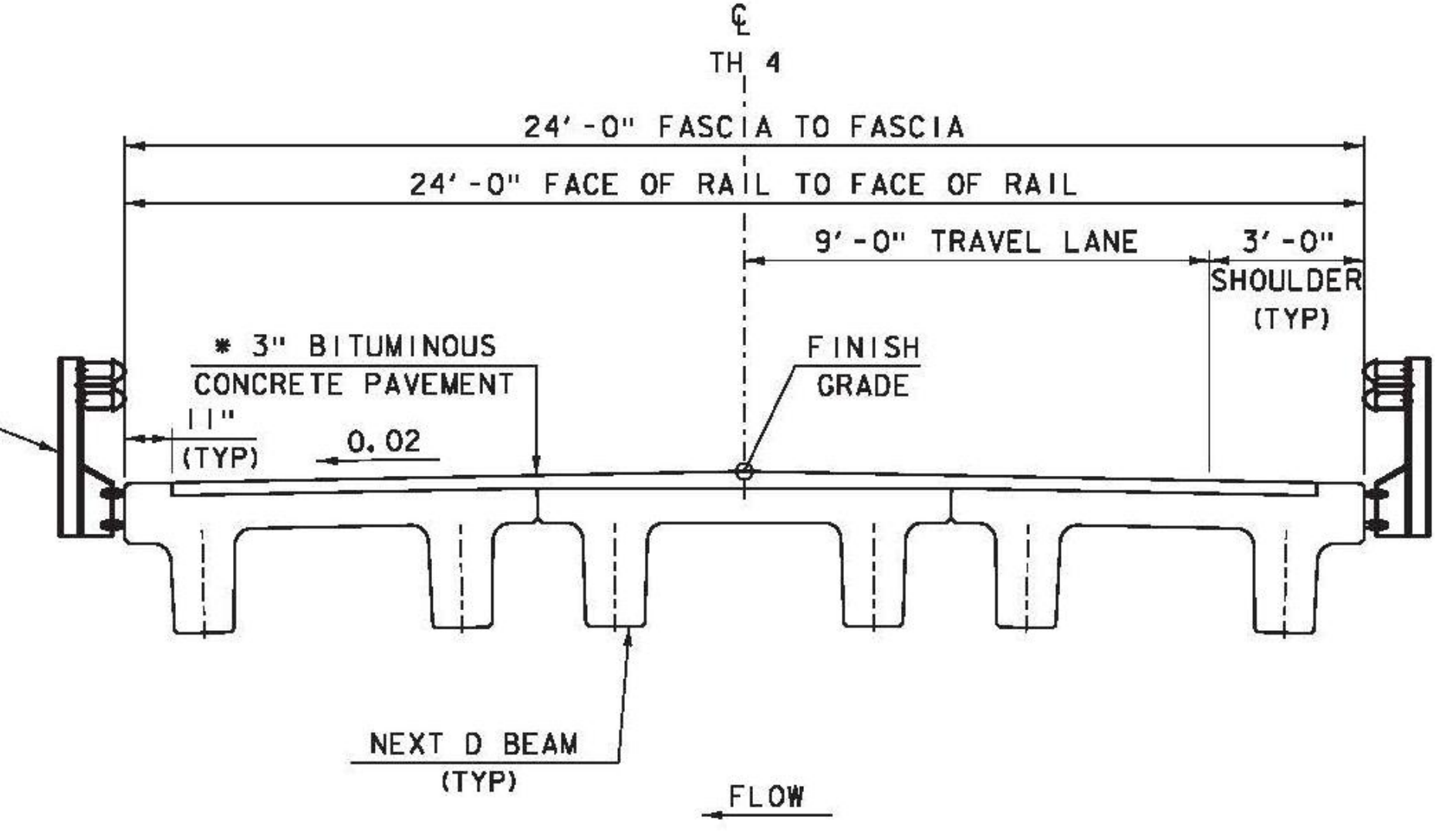
Alternatives

- Full replacement – On Alignment
- Full replacement – Off Alignment (Improved)

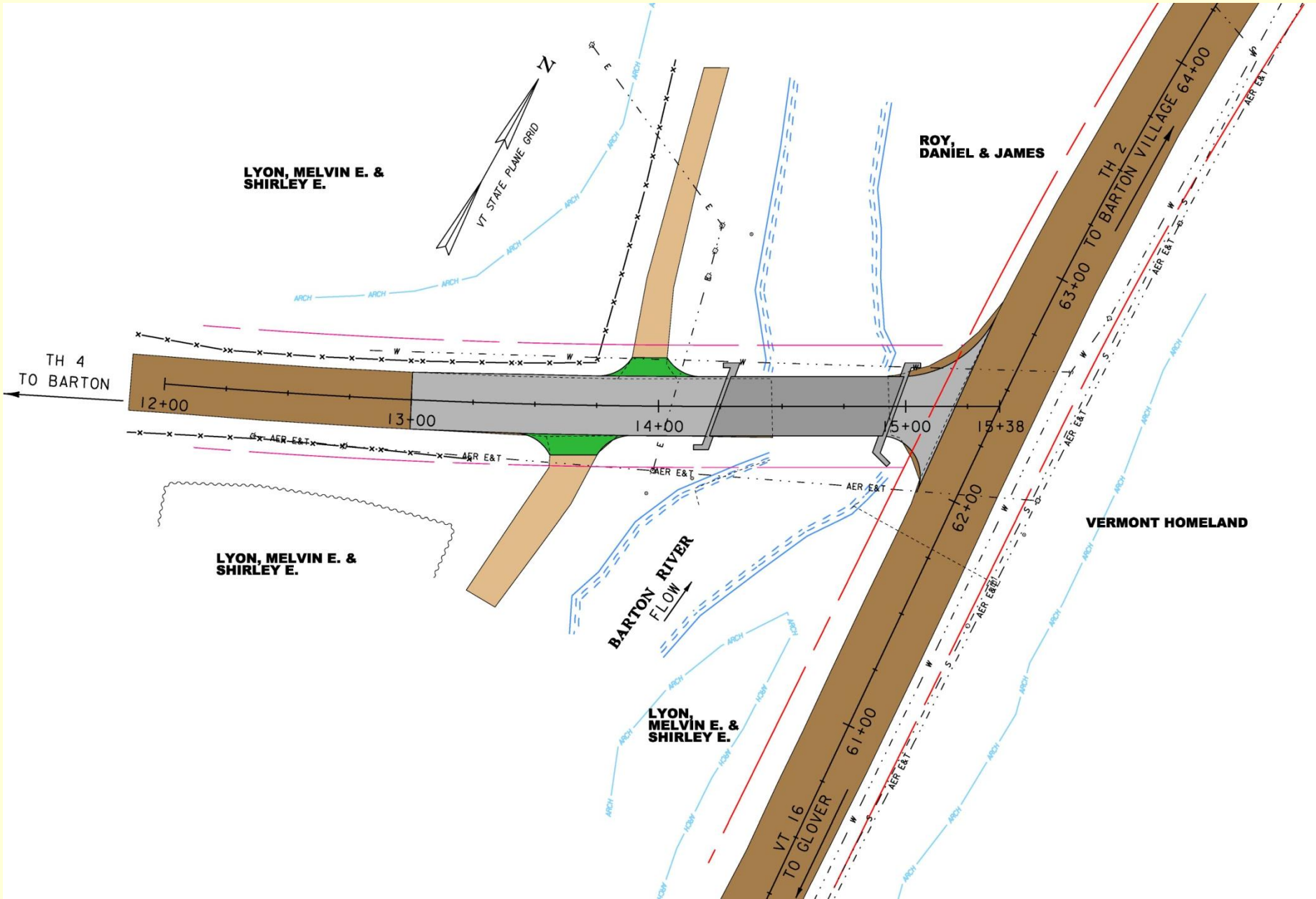
Full Bridge Replacement

- Complete Bridge replacement warranted
- 70’ span w/ substructure on steel H piles
- 24’ width between face of rail
- Long term (80 year) solution

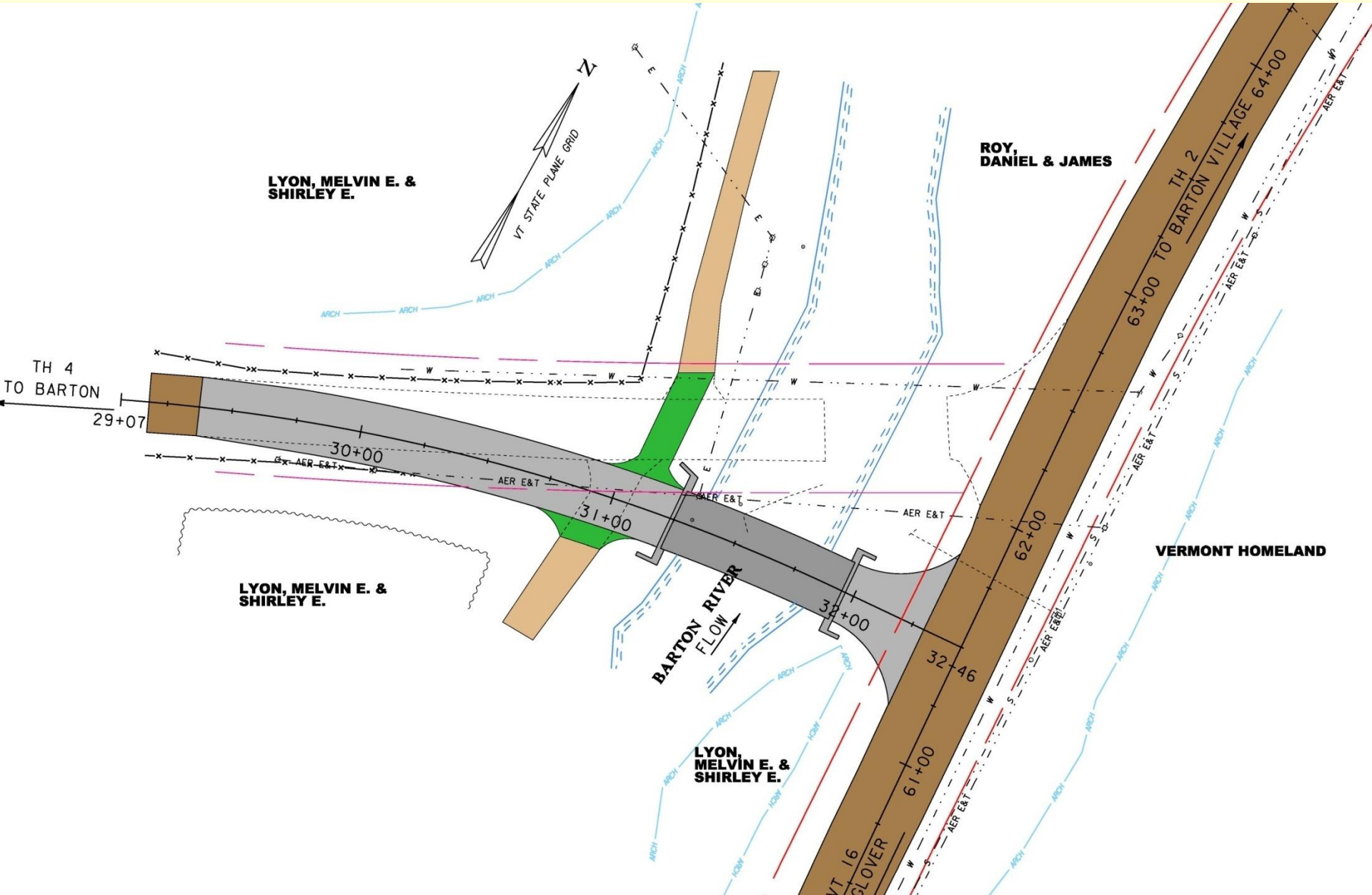
Bridge Typical



Full Replacement – On Alignment



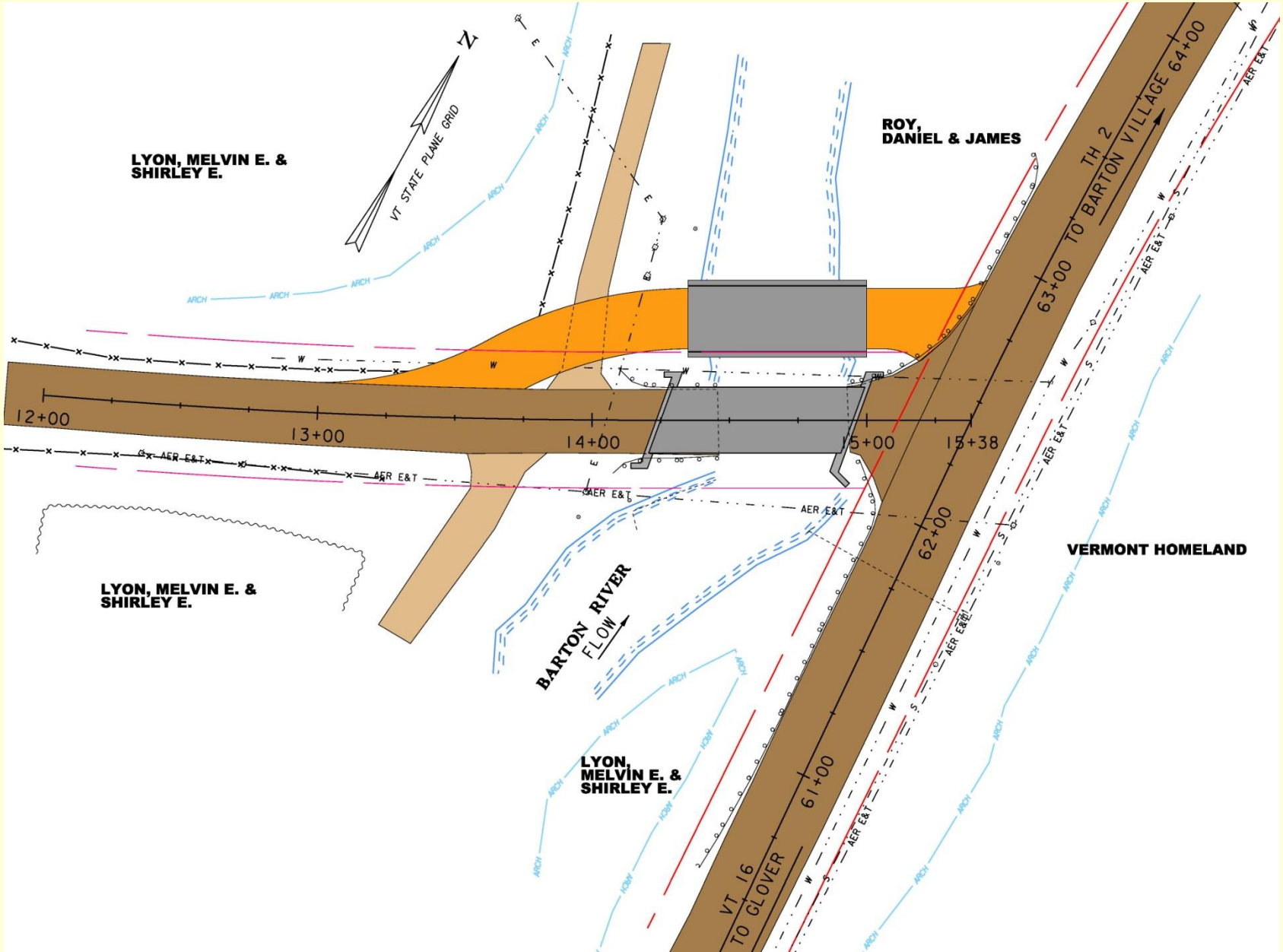
Full Replacement – Off Alignment



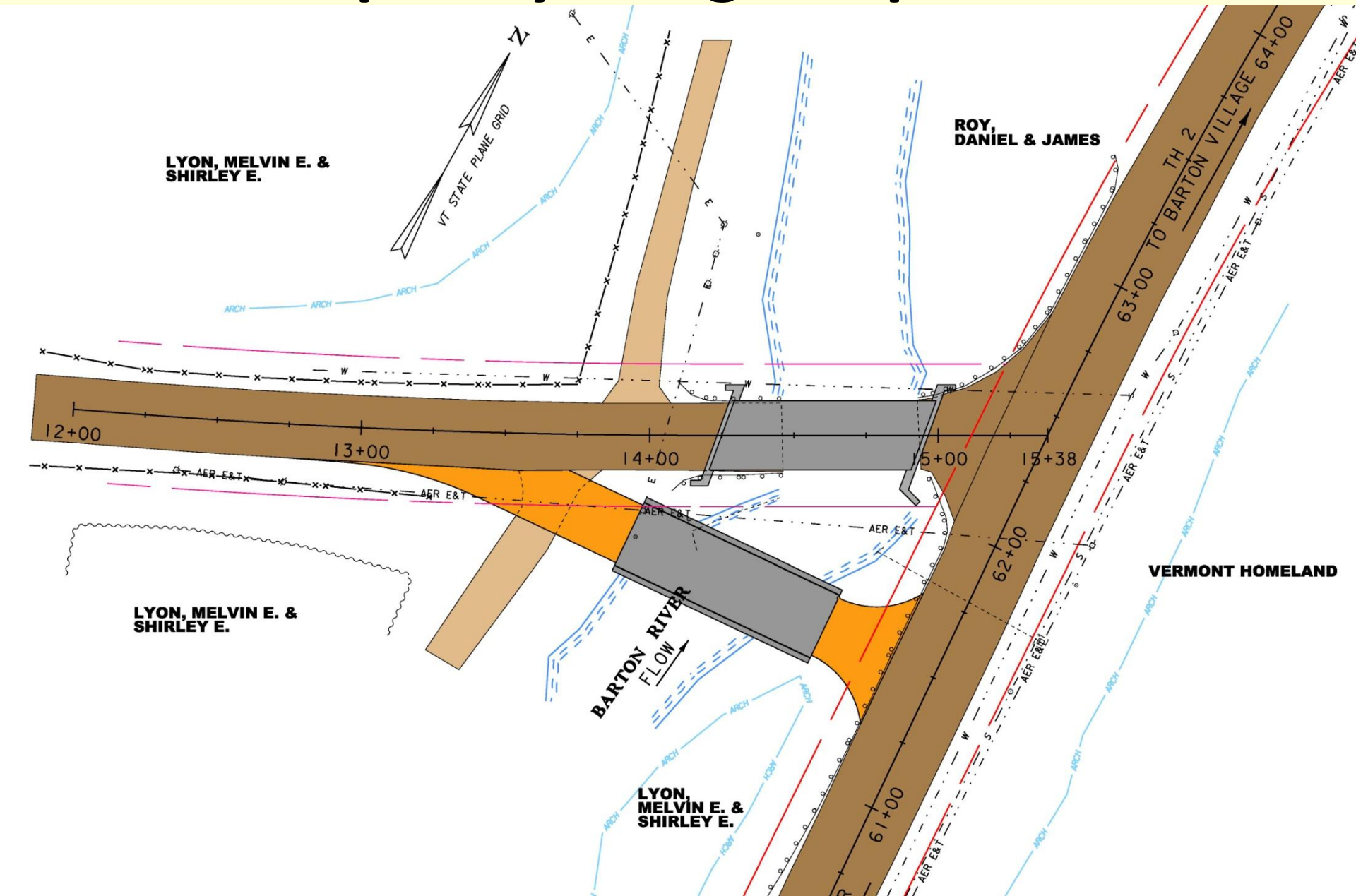
Methods to Maintain Traffic

- Two lane Temporary Bridge
- Off site detour
- Maintain traffic on existing bridge (offsite alignment only)

Temporary Bridge - Downstream



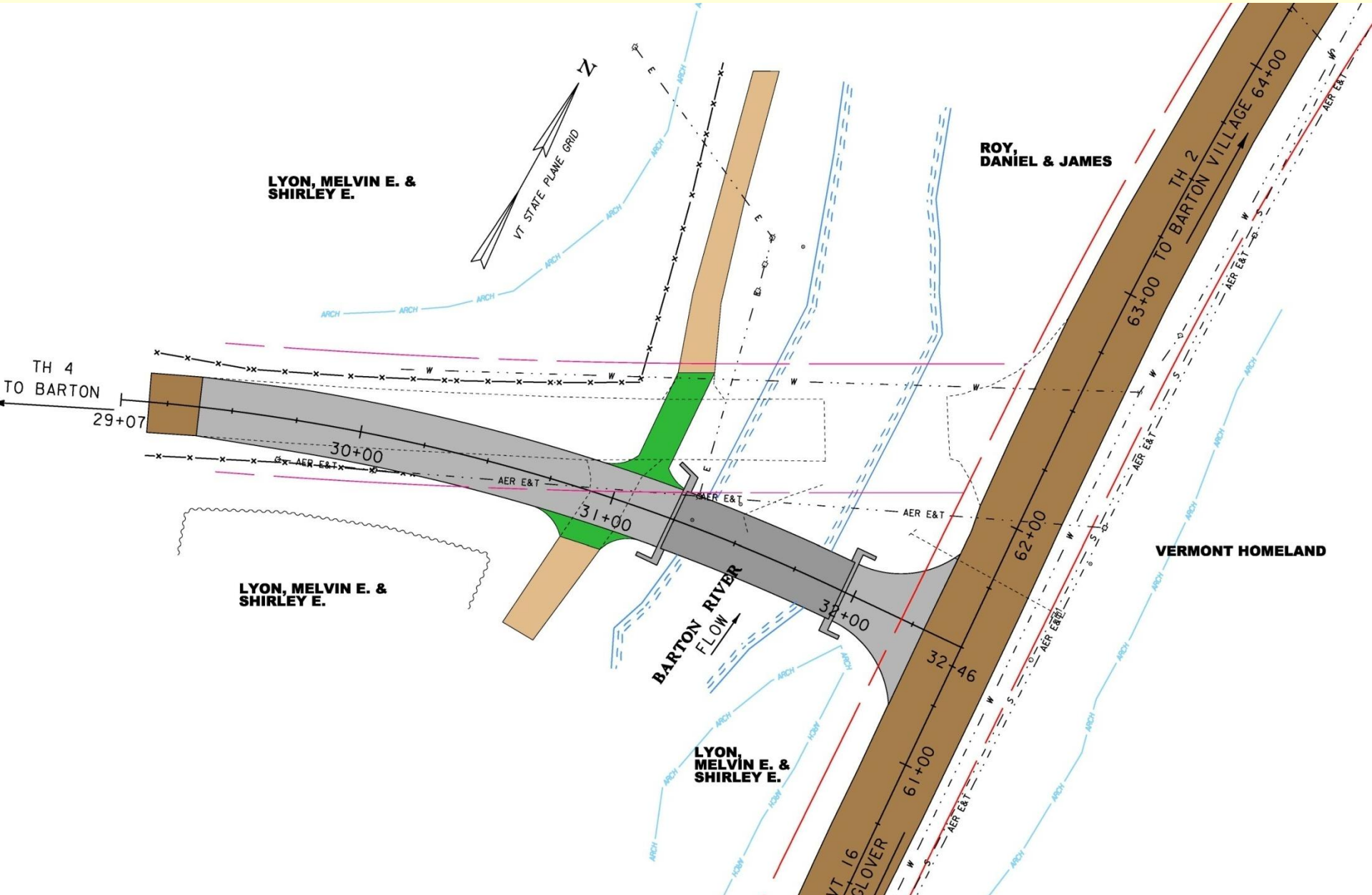
Temporary Bridge - Upstream



ABC with Bridge Closure Option

- Bridge 58 to be closed for 6 weeks (maximum)
- Allow 24/7 construction during bridge closure
- Contract incentives/dis-incentives to encourage contractor
- Community would have input on time of closure (between June 1 and September 1)
- Village will be responsible for detour route (location, signing, installing, maintaining)
- Public Outreach to provide advance notice for planning
- Local share will be cut in half (10% reduced to 5%)

Maintain Traffic on Existing Bridge



Alternatives Matrix Note

- A small amount of Right-of-Way acquisition will be required regardless of the alternative selected since the existing structure is outside the Right-of-Way boundary line.
- For the on-alignment alternative, only a small amount of Right-Of-Way will be required to match into the existing stream and remove a portion of the existing structure.

Alternatives Matrix

	On Alignment w/ Detour	On Alignment w/ Temporary Bridge		Off Alignment w/ Detour	Off Alignment – Traffic on Existing Bridge
Construction w/ CE and Contingencies	$954,200	$1,112,800		$1,032,200	$1,071,200
Preliminary Engineering	$146,800	$171,200		$158,800	$164,800
Right of Way	$36,700	$85,600		$95,000	$95,000
Total Cost	**$1,137,700**	**$1,369,600**		**$1,286,000**	**$1,331,000**
Village Share	**$57,000 (5%)**	**$137,000 (10%)**		**$64,000 (5%)**	**$133,000 (10%)**
Design Life (years)	80	80		80	80
Project Development Duration	>4 years	>4 years		>4 years	>4 years
Construction Duration	4 months	18 months		6 months	6 months
Closure Duration	6 weeks	None		6 weeks	None

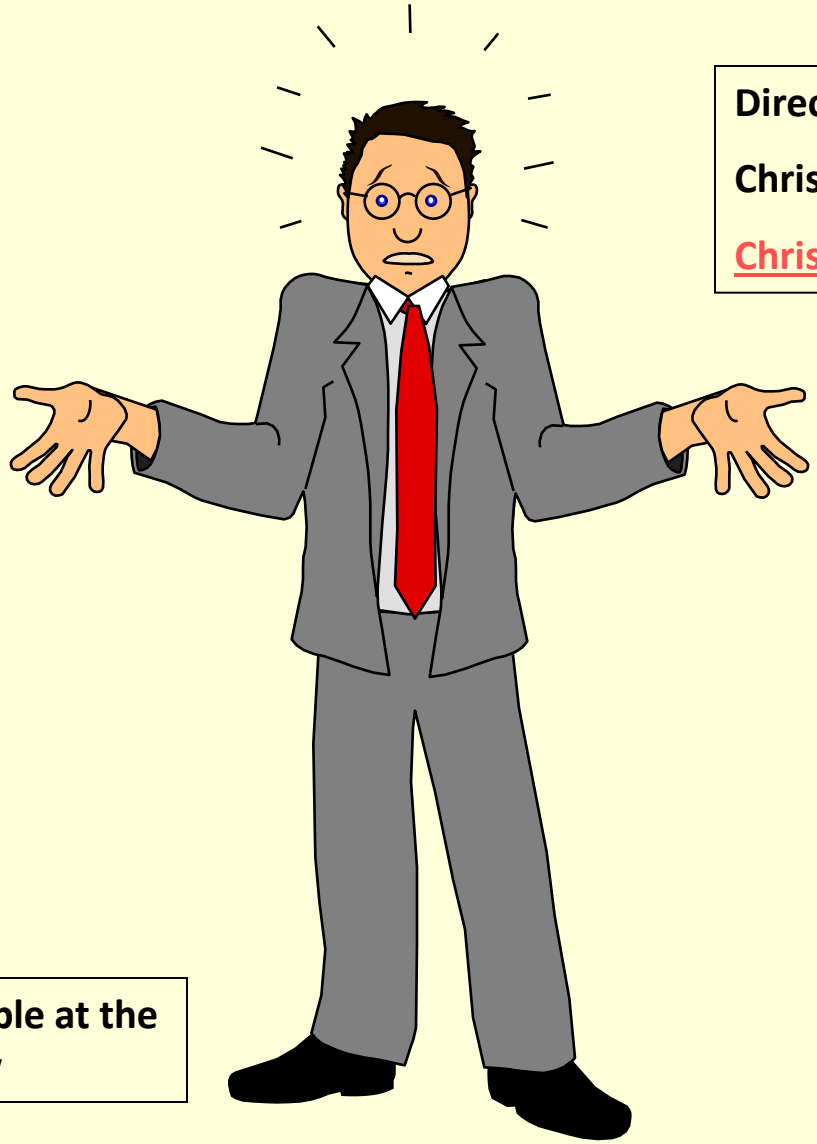
Conclusion and Recommendation

- Full Bridge Replacement on an improved alignment while maintaining traffic on an offsite detour
- Long term (80 year) fix
- Addresses many sub-standard features
- Improved Hydraulic capacity
- Takes advantage of reduced local share for closure--

Next Steps

- Wait for Village response to recommendation on proposed project
- Develop Conceptual plans and distribute for comment
- Hold Public Information meeting for proposed project
- Project Defined – MILESTONE
- Consider bundling this project with the Barton VT 16, Bridge 20 project if appropriate
- Transfer project to Design Project Manager

Questions



Direct any questions to:

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This presentation is available at the web address shown below

https://outside.vermont.gov/agency/vtrans/external/Projects/Structures/13J078